

What is claimed is:

1 1. A system for controlling a home robot, comprising:
2 a remote supercomputer responsive to a user's command for controlling said home robot,
3 said user and said home robot being in a premises different from a location of said supercomputer;
4 a home gateway for providing a path of communication between said home robot and said
5 supercomputer via a network external to said premises; and
6 said home robot being controlled to perform only in response to command result signals
7 generated by said supercomputer, said command result signals being generated in response to said
8 user's command.

1 2. The system as set forth in claim 1, said home robot comprising:
2 a microphone for receiving an external voice command signal from the user and converting
3 the voice command signal into an electric command signal;
4 an analog-to-digital converter for converting the electric command signal to a digital
5 command signal;
6 a wireless communication unit for converting the digital command signal into a wireless
7 command signal and transmitting the wireless command signal to the supercomputer through said
8 home gateway and said network, and for receiving a wireless command result signal from the
9 supercomputer through the network and the home gateway, said wireless communication unit
10 converting the wireless command result signal into a digital command result signal;

11 a digital-to-analog converter for converting a digital voice signal to an analog voice signal
12 when said digital voice signal is included with said digital command result signal;

13 a speaker for producing an audio voice signal in response to the analog voice signal from
14 said digital-to-analog converter;

15 a control unit receiving said digital command result signal from the wireless command unit
16 and analyzing said digital command result signal to control one or more actions of said home
17 robot, and based on said analysis, said control unit outputting one or more of said digital voice
18 signal, motion control signals and an image signal;

19 a driving unit for moving body components of said home robot in response to one or more
20 of said motion control signals from the control unit, each motion control signal being determined
21 by the analysis performed by said control unit on said digital command result signal; and

22 a display unit for displaying an image in response to said image signal.

1 3. The system as set forth in claim 2, said control unit transmitting the digital
2 command signal to said wireless communication unit.

1 4. The system as set forth in claim 2, said wireless communication unit generating and
2 receiving wireless local area network (WLAN) signals.

1 5. The system as set forth in claim 2, said home gateway converting said wireless
2 command signal to a form appropriate to said network for communication over said network as

3 a transmitted command signal.

1 6. The system as set forth in claim 1, the path of communication between said home
2 robot and said home gateway being a wireless local area network (WLAN).

1 7. The system as set forth in claim 1, said supercomputer comprising:
2 a home gateway interface unit for receiving said user's command via said home gateway
3 and said network;
4 a control unit for extracting and interpreting one or more commands of the user and a status
5 signal of the home robot from the user's commands received by the home gateway interface unit,
6 said control unit generating a command response signal in response to each interpreted command
7 and a status response signal in response to the status signal; and
8 a service module unit responsive to each said command response signal for generating
9 corresponding command result signals and responsive to said status response signal for generating
10 corresponding status result signals, said command result signals and status result signals being
11 transmitted to said home robot via said control unit and said home gateway interface unit over said
12 network.

1 8. The system as set forth in claim 7, said supercomputer further comprising:
2 an authentication unit for authenticating the home robot, when the home robot transmits
3 information through the home gateway or requests a service;

4 a charging unit for charging a fee when the home robot uses the supercomputer; and
5 a robot information managing unit for managing a general history of the home robot, the
6 general history comprising one or more of registration information, operation information, accident
7 information and residential position.

1 9. The system as set forth in claim 1, said supercomputer comprising an authentication
2 unit for authenticating the home robot, when the home robot transmits information through the
3 home gateway or requests a service to enable said supercomputer and said home robot to
4 communicate with each other.

1 10. A system for controlling a home robot, the system comprising the home robot, a
2 home gateway and a supercomputer for controlling said home robot, said supercomputer
3 comprising:

4 a home gateway interface unit for receiving user's commands via said home gateway and
5 over a communication network;

6 a control unit for extracting and interpreting one or more commands of the user and a status
7 signal of the home robot from the user's commands received by the home gateway interface unit,
8 said control unit generating a command response signal in response to each interpreted command
9 and a status response signal in response to the status signal;

10 a service module unit responsive to each said command response signal for generating
11 corresponding command result signals and responsive to said status response signal for generating

12 corresponding status result signals, said command result signals and status result signals being
13 transmitted to said home robot via said control unit and said home gateway interface unit over said
14 network; and

15 a robot information managing unit for managing a general history of the home robot such
16 as registration information, operation information, accident information and residential position
17 for operations of the control unit.

1 11. The system as set forth in claim 10, said supercomputer further comprising:
2 an authentication unit for authenticating the home robot, when the home robot transmits
3 information through the home gateway or requests a service, communication between the home
4 robot and the supercomputer being enabled upon authentication of the home robot; and
5 a charging unit for charging a fee when the home robot uses the supercomputer.

1 12. The system as set forth in claim 10, said service module comprising:
2 a common service module unit for providing a common service to all users; and
3 an individual service module unit for providing individual services to each user.

1 13. The system as set forth in claim 10, said service module comprising:
2 a voice recognizing module for recognizing a voice command;
3 a voice synthesizing module for synthesizing and reproducing voice; and
4 a home robot driving managing module for generating the motion control signals for

5 driving the home robot.

1 14. The system as set forth in claim 10, wherein the registration information comprises
2 at least one of an ID (identification) of the home robot, a product number and product
3 specifications of the home robot and personal information of an owner of the home robot.

1 15. The system as set forth in claim 10, the communication network being a wireless
2 local area network (WLAN).

1 16. A method for operating a home robot using a supercomputer, the method
2 comprising steps of:
3 receiving a voice command of a user at the home robot;
4 converting the voice command into a digital voice command;
5 transmitting the digital voice command to the supercomputer through a home gateway;
6 interpreting the digital voice command transmitted from the home robot through the home
7 gateway at the supercomputer by voice recognition;
8 generating a response message to the voice command;
9 synthesizing the response message into a synthesized voice message
10 transmitting the synthesized voice message to the home robot through the home gateway;
11 and
12 converting the synthesized voice message to produce an analog voice signal to generate an

13 audible voice through a speaker.

1 17. The method as set forth in claim 16, said step of transmitting the digital voice
2 command to the supercomputer through a home gateway comprising steps of:
3 converting the digital voice command to a wireless local area network (WLAN) signal;
4 transmitting the wireless local area network (WLAN) signal to said home gateway from
5 said home robot; and
6 converting the wireless local area network (WLAN) signal to a form suitable for
7 transmission over a communication network connected between said supercomputer and said home
8 gateway.